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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,669	12/12/2001	Gia Van Nguyen	DN1999069USA	1673

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EXAMINER

FISCHER, JUSTIN R

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/018,669

Applicant(s)

NGUYEN ET AL.

Examiner

Justin R Fischer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 8 and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by Zhang et al. (WO 98/54012). As best depicted in Figures 4 and 5, Zhang teaches a pneumatic radial ply runflat tire construction having a tread 12, two inextensible annular beads 26, 26A, a carcass structure 30 comprising a metal reinforced first or inner carcass ply 38, a second or outer carcass ply ("at least one carcass ply"), an innerliner 35, a belt structure 36, two sidewall regions 20, and at least one wedge insert 42 in each of said sidewall regions, wherein the metal reinforced carcass ply is sandwiched between two circumferentially disposed fabric layers formed of parallel-aligned cords (Page 22, Line 19-28). In this instance, Zhang teaches that the inserts, which are disposed axially inside and outside of said metal reinforced carcass ply, may be cord reinforced. Therefore, the embodiment depicted in Figure 5 would result, such that the metal reinforced carcass ply 38 is sandwiched between a first and second circumferentially disposed fabric layer (although the embodiment of Figure 5 is directed to the fabric layers being formed of short fibers, the embodiment in which the fabric layers are cord reinforced layers would result in the same arrangement).

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Regarding claim 9, Zhang suggests that the cords of the fabric layers can be positioned at bias angles, preferably at least 45 degrees with respect to the circumferential direction of the tire (Page 23, Lines 1-4).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang and further in view of Kono (JP 01297306), Verdier (US 3,464,477), and Mezzanotte (EP 0385192). As set forth in the previous paragraph, Zhang discloses a pneumatic radial ply runflat tire construction in which a first metal reinforced carcass ply is sandwiched between a pair of circumferentially extending fabric or cord reinforcing layers. In Figure 4, Zhang depicts the cord reinforcing layer fabric layer as extending into the shoulder region and over approximately 100% of the radial width of the associated elastomeric reinforcement. However, the reference places no criticality on the radial extent of the cord reinforcing layer and one of ordinary skill in the art at the time of the invention would have found it obvious to dispose the cord reinforcing layer within a range of between 20 and 80 % of the radial width of the elastomeric reinforcement as such an arrangement is extensively used in similar tire designs, as shown for example by Kono (Figure 5), Verdier (Figure 2), and Mezzanotte (Figure 1).

It is emphasized that the limitations of the claimed invention require that the cord

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reinforcing layers have a radial width that is not extremely small (greater than 20% of radial width of elastomeric reinforcement) and which does not exceed the radial width of the elastomeric reinforcement (less than 80%). One of ordinary skill in the art at the time of the invention, without undue experimentation, would have been able to optimize the performance of the elastomeric reinforcements by appropriately selecting the radial extent of the cord reinforcing layers (fabric layers) and in view of similar tire designs, one of ordinary skill in the art at the time of the invention would have found the broad range of the claimed invention to have been obvious and define common tire arrangements, there being no conclusive showing of unexpected results to establish a criticality for the claimed radial width.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshino (US 3,954,131) and further in view of Poque (US 4,024,901) and Alie (EP 0287497). As best depicted in Figure 1, Hoshino is directed to a pneumatic, radial ply runflat tire construction having a tread 2, two inextensible annular beads 8, a carcass structure 5 formed of two carcass plies, an innerliner 9, and a belt structure 6, a pair of sidewall portions 3, and at least one wedge insert or elastomeric reinforcement 10 in each of said sidewall portions, wherein said wedge insert can contain one or more reinforcing layers to improve the performance of the runflat tire (Column 7, Lines 40-50).

Regarding the "metal reinforced first carcass ply" of the claimed invention, Hoshino is completely silent with respect to the carcass reinforcing materials, only providing a single, exemplary embodiment in which the carcass is formed of rayon cords (Column 8, Lines 55-60). One of ordinary skill in the art at the time of the invention would have

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found it obvious to use metal as the carcass reinforcing element since such a material is extremely well known and extensively used in the manufacture of carcass plies due to its high strength properties. It should be noted that the critical feature of Hoshino is the design and arrangement of the sidewall elastomeric reinforcements- the reference is not particularly concerned with the specific materials used to form the carcass plies. Thus, one of ordinary skill in the art at the time of the invention would have found it obvious to manufacture the tire of Hoshino such that multiple cord reinforcing layers are disposed within an elastomeric reinforcement, which is disposed axially inward of a first, metallic reinforced carcass ply. Therefore, the reference is only devoid of a teaching that suggests the cord reinforcing layers be in the form of a "woven fabric". However, a "woven fabric" represents a well-known arrangement for sidewall reinforcing layers that is recognized as an alternative to disposing two cord reinforcing layers adjacent one another. Poque (Figure 1 and Column 3, Lines 25-30) and Alie (Figure 3 and Column 5, Lines 50-60) evidence the well known use of "woven fabric" layers as sidewall reinforcing layers (similar reinforcement to that of Hoshino). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to arrange the cord reinforcing layers of Hoshino as a "woven fabric" since such an arrangement represents an alternative to disposing cord reinforcing layers adjacent one another, as suggested by Hoshino, while providing the necessary reinforcement/rigidity to the elastomeric reinforcement.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshino, Poque, and Alie as applied to claim 11 above and further in view of Verdier (US

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3,464,477) and Mezzanotte (EP 0385192). As previously stated, Hoshino discloses the use of multiple cord reinforcing layers within a sidewall elastomeric reinforcement, wherein said cord reinforcing layers are disposed axially inward of the first carcass ply. In this instance, one of ordinary skill in the art at the time of the invention would have readily appreciated arranging the multiple cord reinforcing layers as a single "woven fabric" since it represents a well known alternative to adjacent cord plies. While Hoshino fails to describe the radial extent of the cord reinforcing layers forming the "woven fabric", one of ordinary skill in the art at the time of the invention would have recognized the claimed invention as defining a broad range of values that is consistent with previous tire designs incorporating similar cord reinforcing layers, as shown for example by Verdier (Figure 2) and Mezzanotte (Figure 1 and Column 6, Lines 16-25). It is emphasized that the limitations of the claimed invention require that the "woven fabric" have a radial width that is not extremely small (greater than 20% of radial width of elastomeric reinforcement) and which does not exceed the radial width of the elastomeric reinforcement (less than 80%). One of ordinary skill in the art at the time of the invention, without undue experimentation, would have been able to optimize the performance of the elastomeric reinforcements by appropriately selecting the radial extent of the "woven fabric" and in view of similar tire designs, one of ordinary skill in the art at the time of the invention would have found the broad range of the claimed invention to have been obvious and define common arrangements, there being no conclusive showing of unexpected results to establish a criticality for the claimed radial width.

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7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshino, Poque, and Alie as applied to claim 11 above and further in view of Zhang. As previously stated, Hoshino discloses the use of multiple cord reinforcing layers within a sidewall elastomeric reinforcement, wherein said cord reinforcing layers are disposed axially inward of the first carcass ply. In this instance, one of ordinary skill in the art at the time of the invention would have readily appreciated arranging the multiple cord reinforcing layers as a single "woven fabric" since it represents a well known alternative to adjacent cord plies. While Hoshino is silent as to the inclination angle of the reinforcing elements in the cord reinforcing layers, one of ordinary skill in the art at the time of the invention would have found it obvious to include an inclination angle between 20 and 50 degrees with respect to the carcass ply (equivalent to 40-70 degrees with respect to circumferential direction given radial carcass). In particular, these inclination angles are consistent with those that are commonly used for cord reinforcing layers associated with sidewall elastomeric reinforcements. For example Zhang suggests a preferred inclination angle of at least 45 degrees with respect to the circumferential direction of the tire (Page 23, Lines 1-4). Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the inclination angle of the reinforcing elements. As such, one of ordinary skill in the art at the time of the invention would have readily appreciated a tire design of Hoshino in which the reinforcing elements defining the "woven fabric" have an inclination angle between 20 and 50 degrees with respect to the carcass ply or 40 to 70 degrees with respect to the circumferential direction of the tire.

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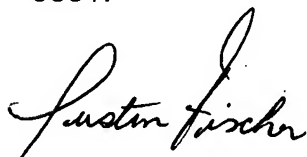
Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishikawa (US 6,209,604) teaches a pneumatic, radial ply runflat tire construction having a fabric layer axially inward of a first carcass ply. Ghilardi (US 5,238,040) is directed to pneumatic, radial ply runflat tire construction in which "at least a textile reinforcement" is included within a sidewall elastomeric reinforcement, which is disposed axially inward of a first carcass ply.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(703) 605-4397**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Justin Fischer

September 12, 2003


Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700